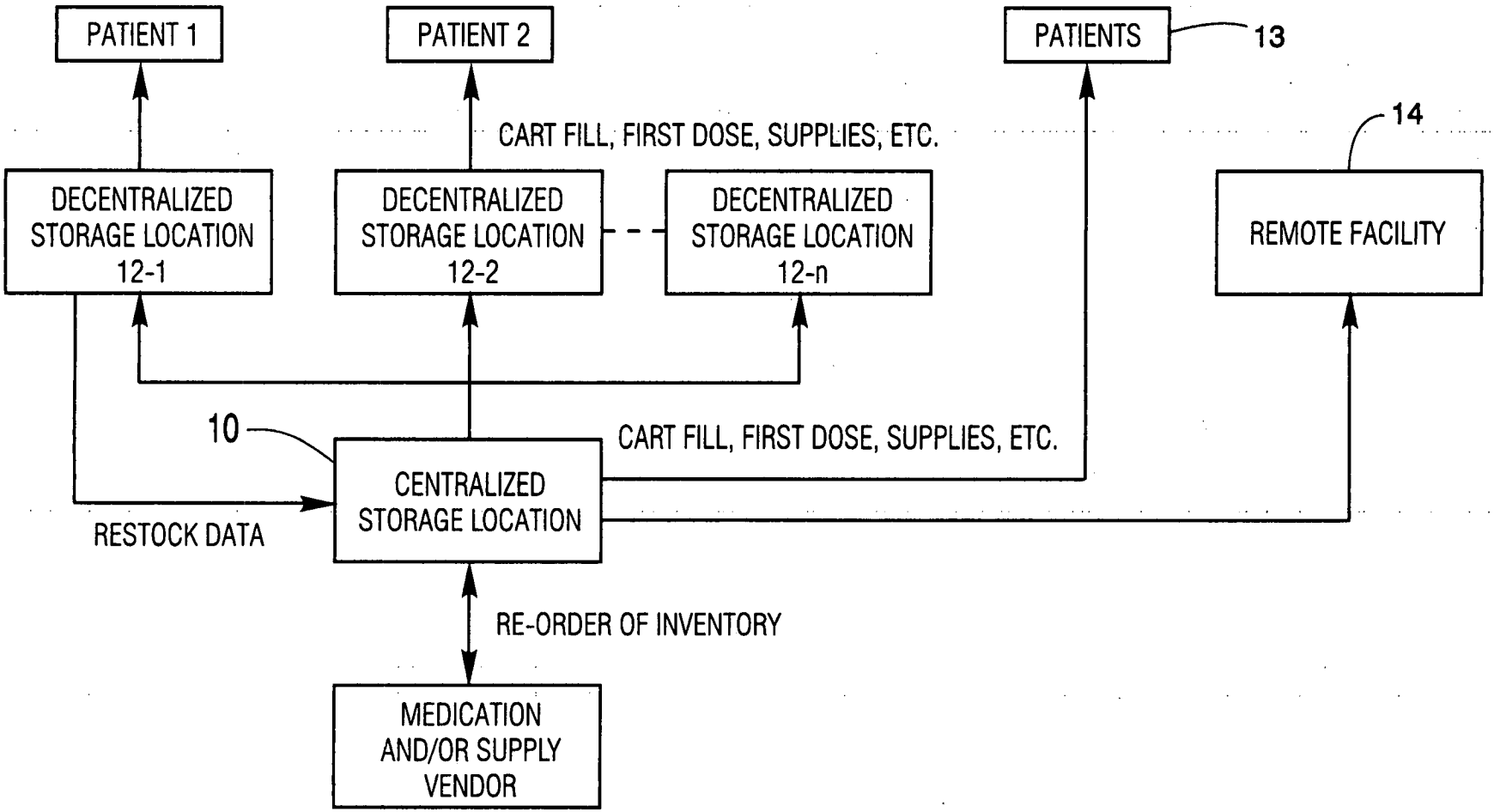

PATIENT 1
PATIENT 2
PATIENTS
13
14
CART FILL, FIRST DOSE, SUPPLIES, ETC.
DECENTRALIZED STORAGE LOCATION 12-1
DECENTRALIZED STORAGE LOCATION 12-2
DECENTRALIZED STORAGE LOCATION 12-n
REMOTE FACILITY
10
CART FILL, FIRST DOSE, SUPPLIES, ETC.
CENTRALIZED STORAGE LOCATION
RESTOCK DATA
RE-ORDER OF INVENTORY
MEDICATION AND/OR SUPPLY VENDOR

Fig.1

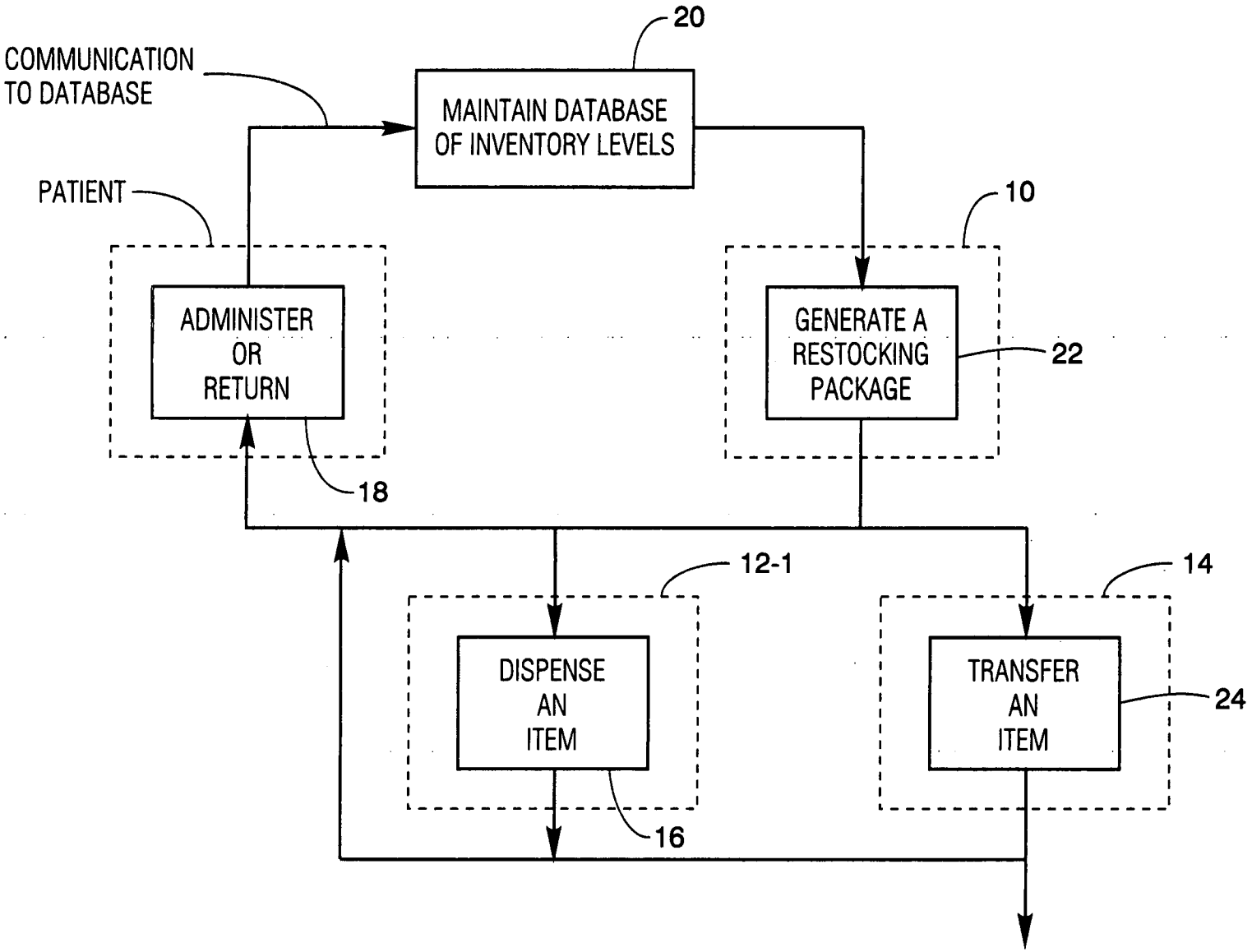

20
COMMUNICATION
TO DATABASE
MAINTAIN DATABASE
OF INVENTORY LEVELS
PATIENT
10
ADMINISTER
OR
RETURN
GENERATE A
RESTOCKING
PACKAGE
22
18
12-1
14
DISPENSE
AN
ITEM
TRANSFER
AN
ITEM
24
16

Fig.2

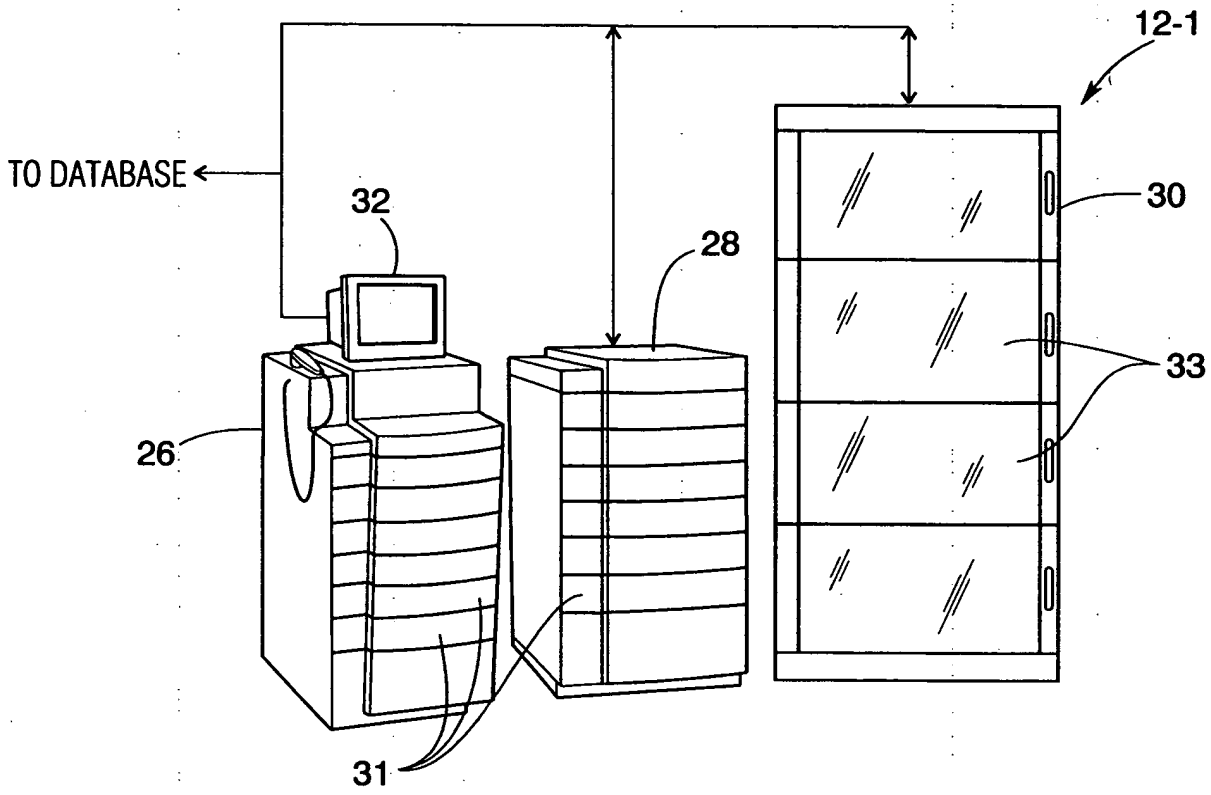

12-1
TO DATABASE
32
28
30
33
26
31

Fig.3

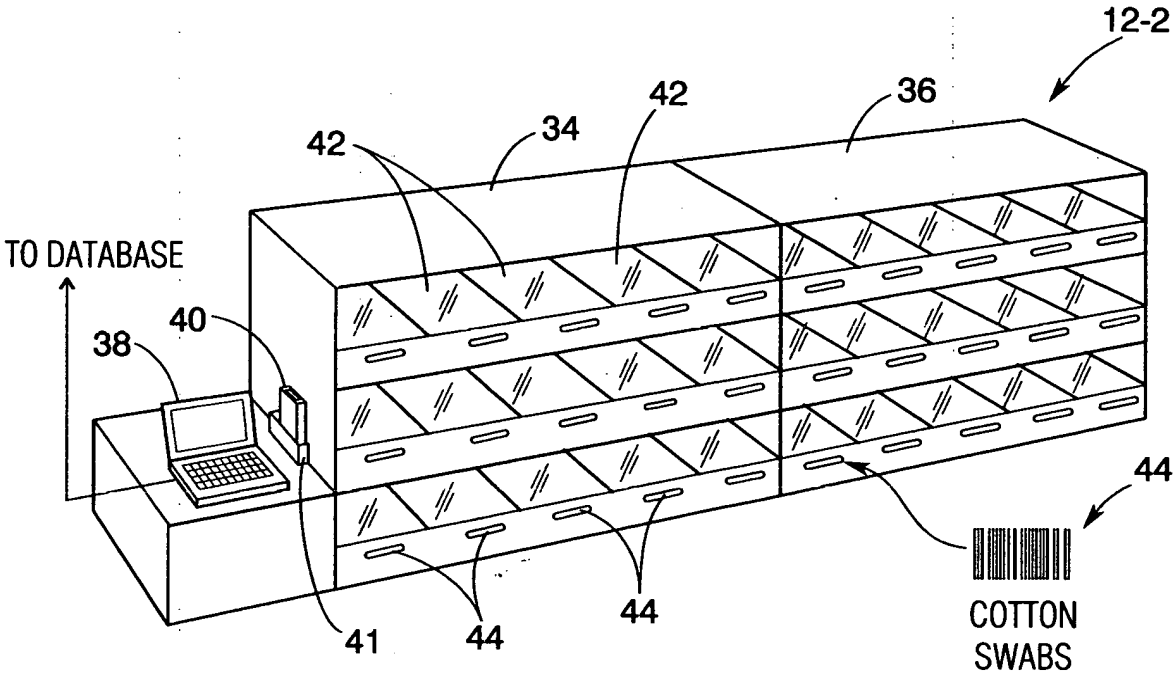

12-2
42
34
42
36
TO DATABASE
40
38
41
44
44
44
COTTON
SWABS

Fig.4

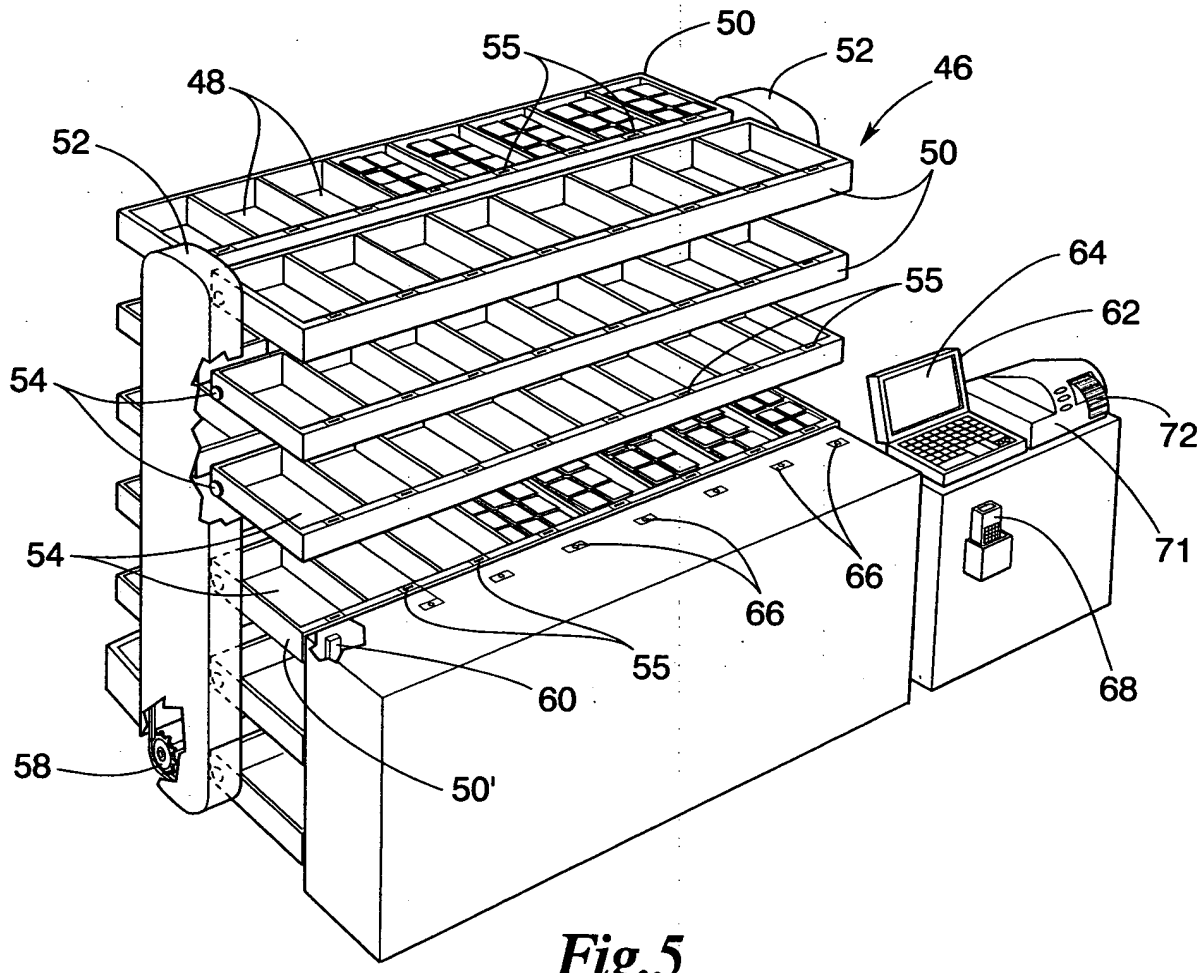


Fig.5

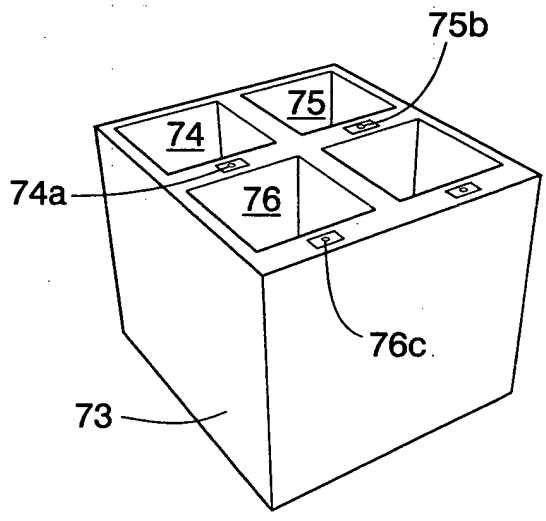


Fig.5a

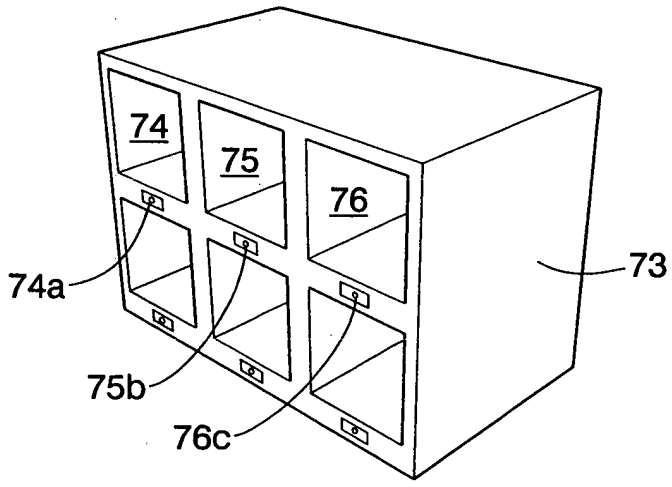


Fig.5b

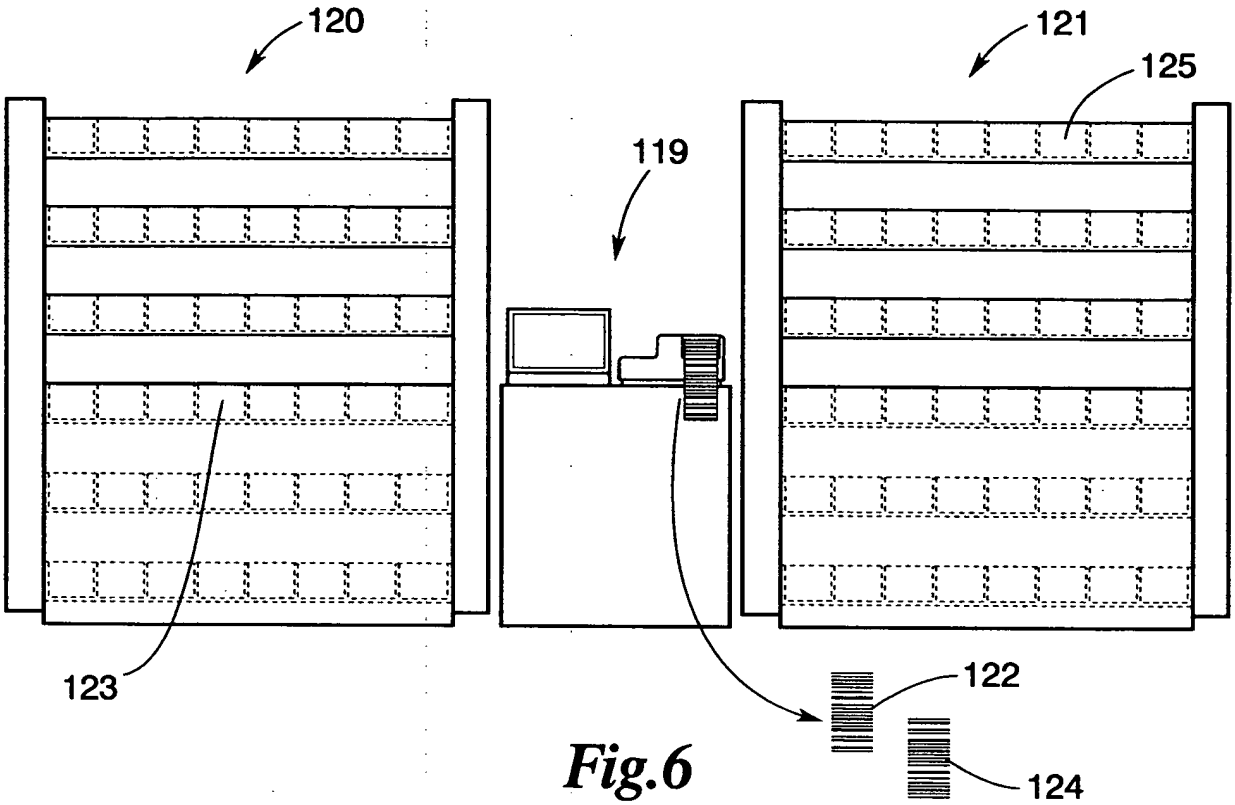


Fig.6

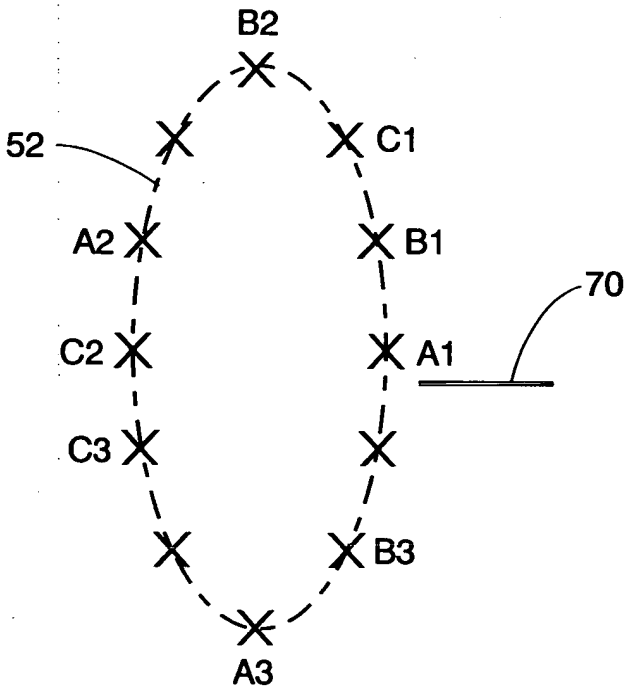


Fig.7

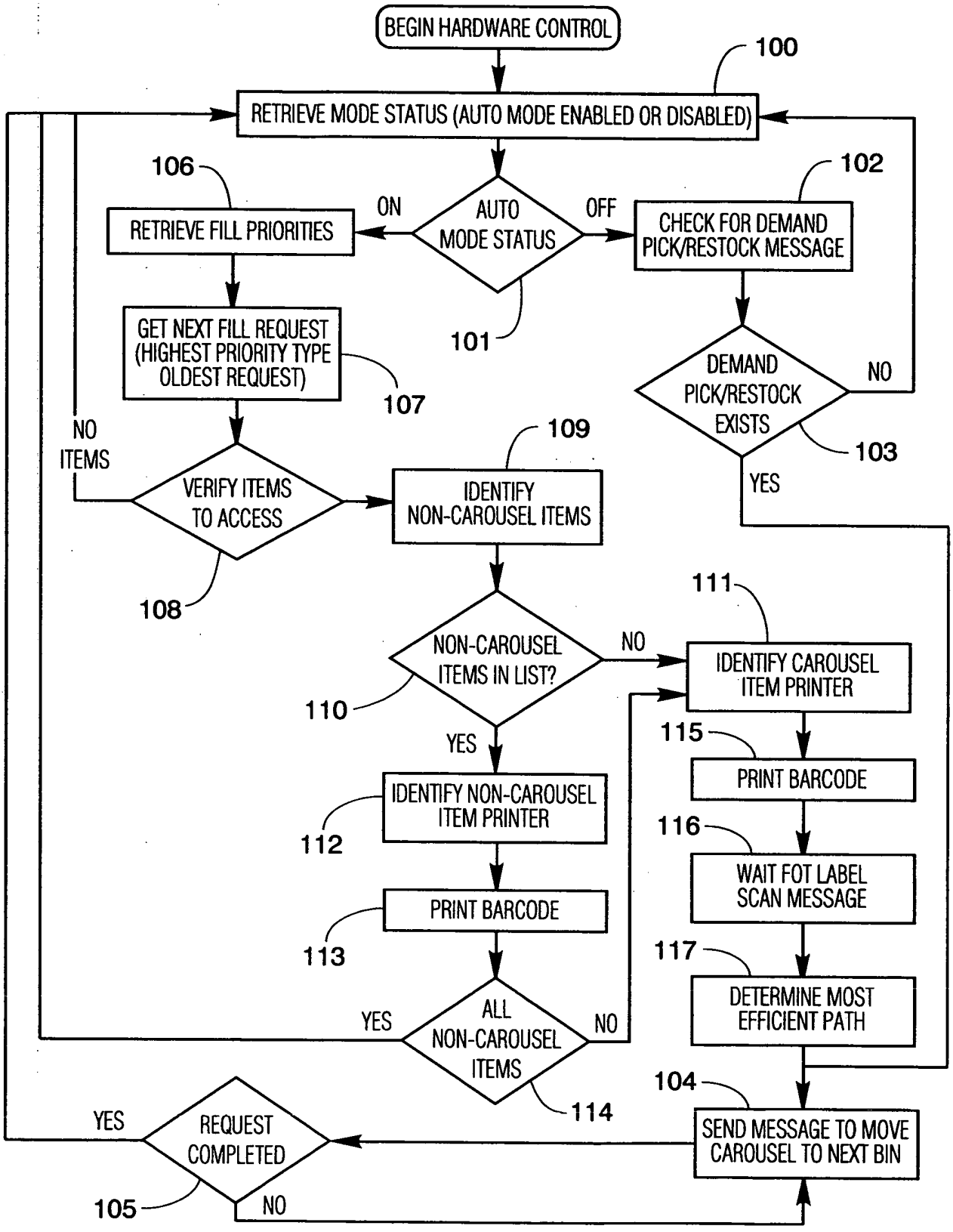

BEGIN HARDWARE CONTROL
100
RETRIEVE MODE STATUS (AUTO MODE ENABLED OR DISABLED)
106
102
ON
AUTO MODE STATUS
OFF
RETRIEVE FILL PRIORITIES
CHECK FOR DEMAND PICK/RESTOCK MESSAGE
101
GET NEXT FILL REQUEST (HIGHEST PRIORITY TYPE OLDEST REQUEST)
107
DEMAND PICK/RESTOCK EXISTS
NO
103
YES
NO ITEMS
109
VERIFY ITEMS TO ACCESS
IDENTIFY NON-CAROUSEL ITEMS
108
111
NON-CAROUSEL ITEMS IN LIST?
NO
IDENTIFY CAROUSEL ITEM PRINTER
110
YES
115
PRINT BARCODE
IDENTIFY NON-CAROUSEL ITEM PRINTER
112
116
WAIT FOT LABEL SCAN MESSAGE
PRINT BARCODE
113
117
DETERMINE MOST EFFICIENT PATH
YES
ALL NON-CAROUSEL ITEMS
NO
114
104
YES
REQUEST COMPLETED
SEND MESSAGE TO MOVE CAROUSEL TO NEXT BIN
105
NO

Fig.8

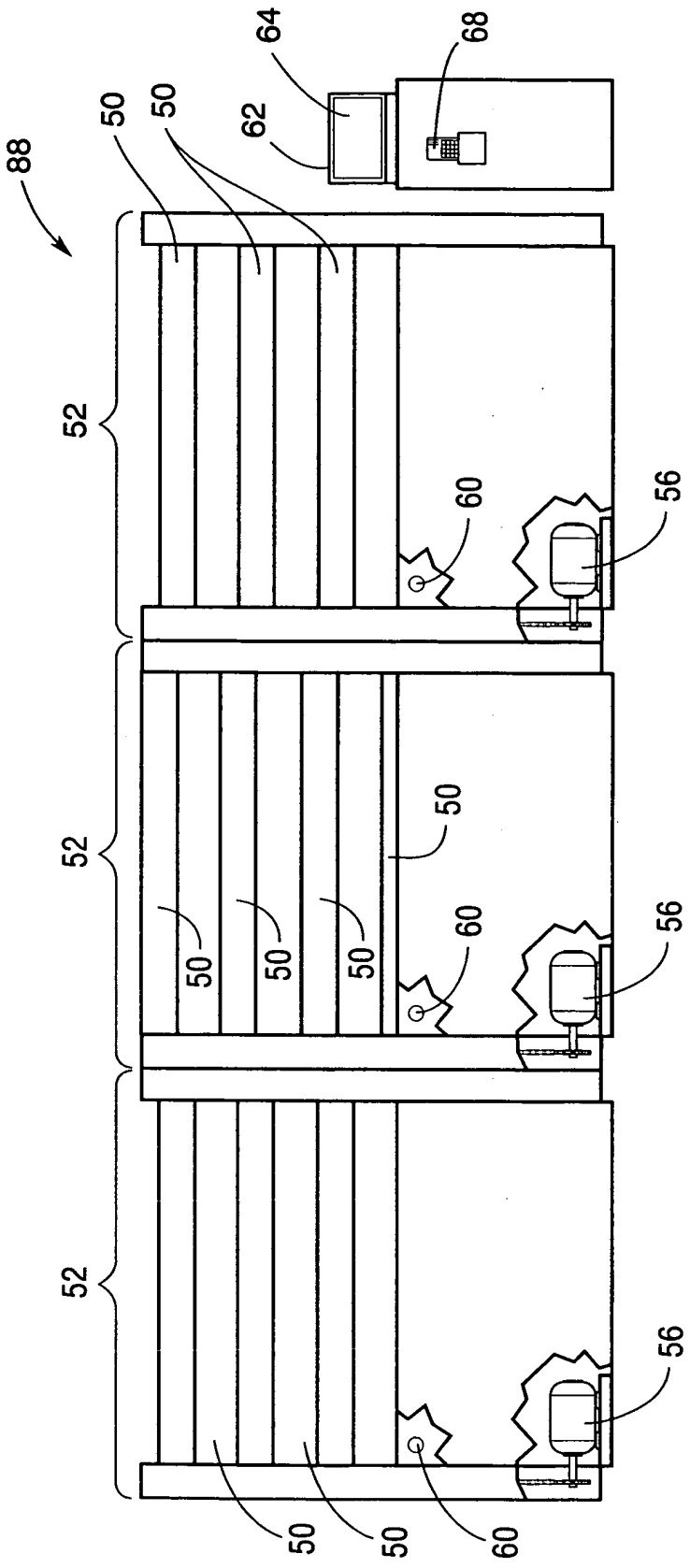


Fig.9

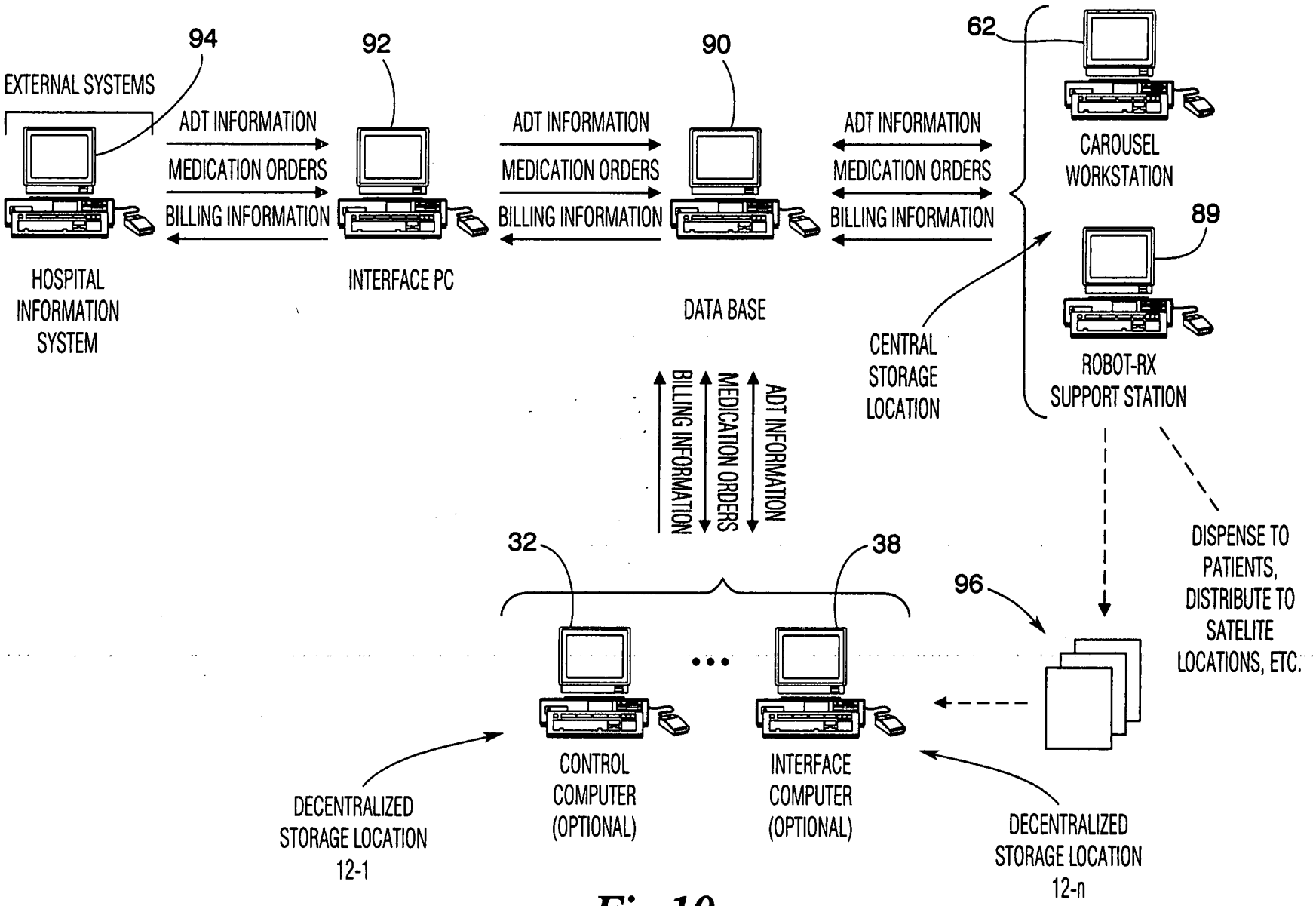

94
92
90
62
EXTERNAL SYSTEMS
ADT INFORMATION
MEDICATION ORDERS
BILLING INFORMATION
ADT INFORMATION
MEDICATION ORDERS
BILLING INFORMATION
ADT INFORMATION
MEDICATION ORDERS
BILLING INFORMATION
CAROUSEL WORKSTATION
89
HOSPITAL INFORMATION SYSTEM
INTERFACE PC
DATA BASE
CENTRAL STORAGE LOCATION
ROBOT-RX SUPPORT STATION
BILLING INFORMATION
MEDICATION ORDERS
ADT INFORMATION
32
38
96
DISPENSE TO PATIENTS, DISTRIBUTE TO SATELITE LOCATIONS, ETC.
CONTROL COMPUTER (OPTIONAL)
INTERFACE COMPUTER (OPTIONAL)
DECENTRALIZED STORAGE LOCATION 12-1
DECENTRALIZED STORAGE LOCATION 12-n

Fig.10

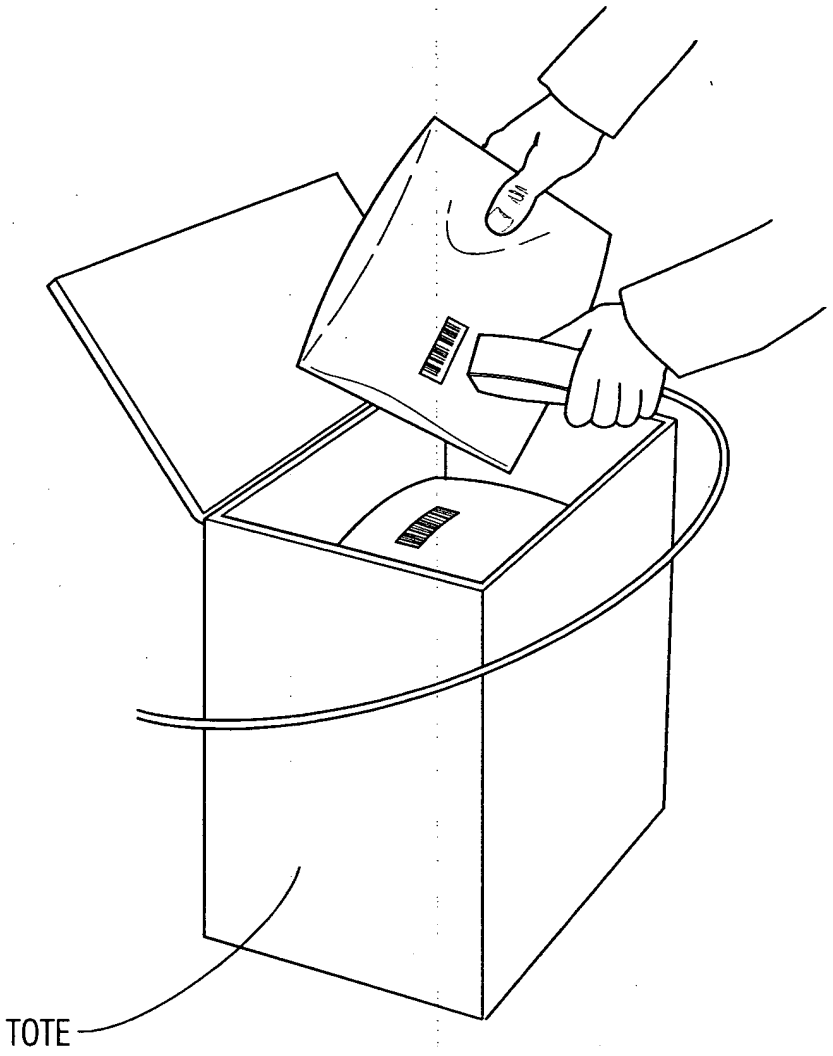
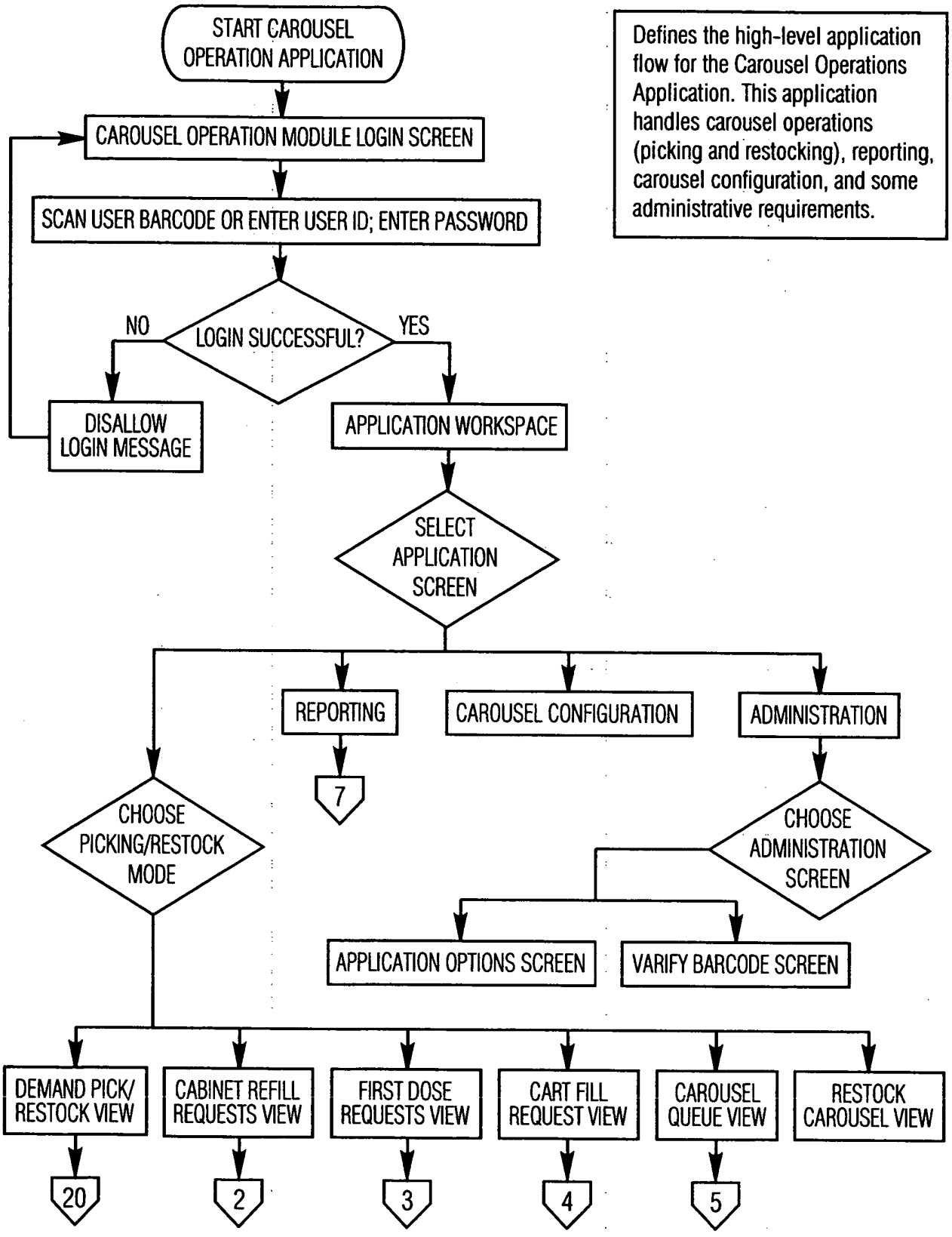
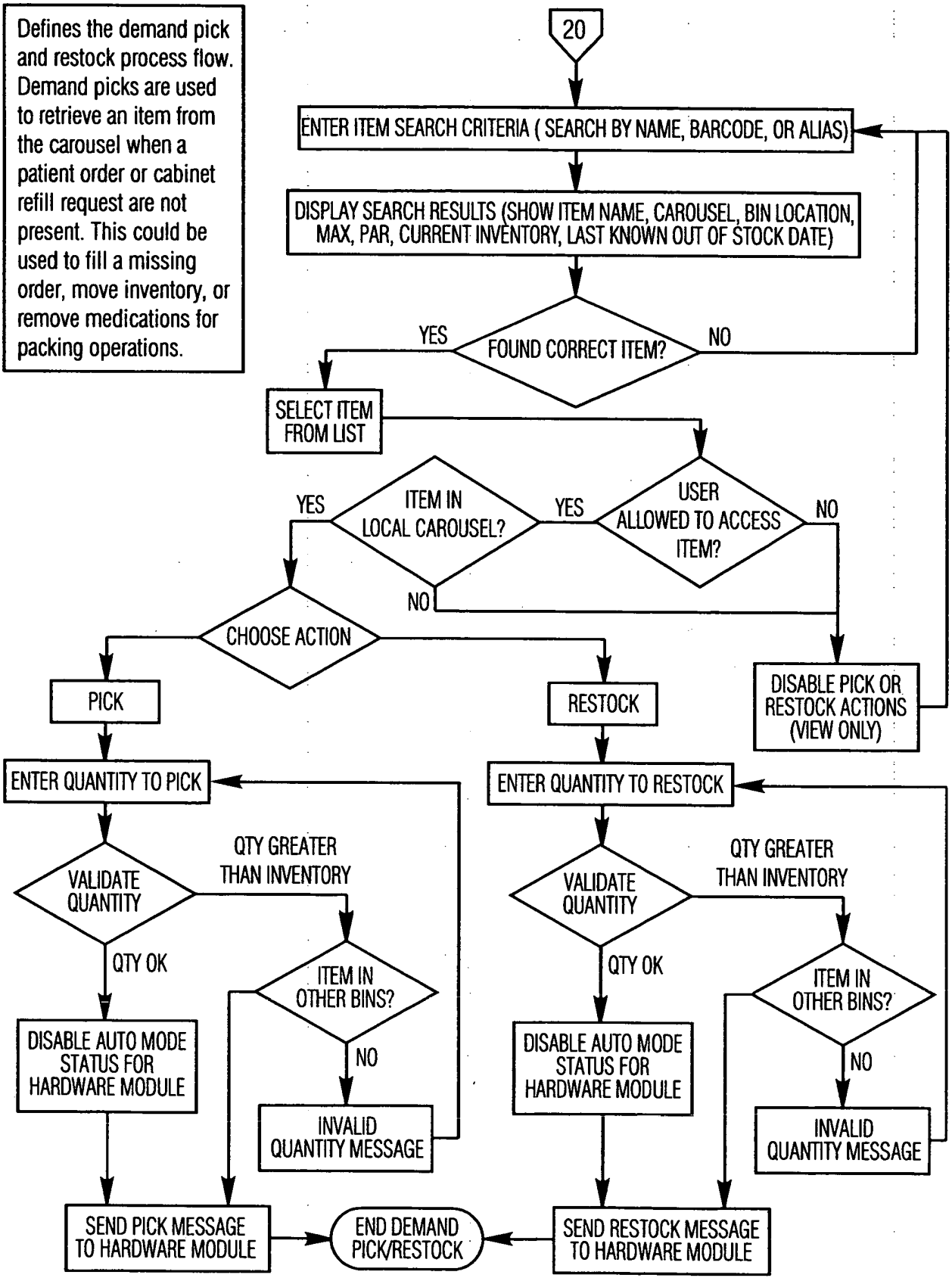


Fig.11


START CAROUSEL OPERATION APPLICATION
CAROUSEL OPERATION MODULE LOGIN SCREEN
SCAN USER BARCODE OR ENTER USER ID; ENTER PASSWORD
LOGIN SUCCESSFUL?
NO
YES
DISALLOW LOGIN MESSAGE
APPLICATION WORKSPACE
SELECT APPLICATION SCREEN
REPORTING
CAROUSEL CONFIGURATION
ADMINISTRATION
7
CHOOSE PICKING/RESTOCK MODE
CHOOSE ADMINISTRATION SCREEN
APPLICATION OPTIONS SCREEN
VARIFY BARCODE SCREEN
DEMAND PICK/ RESTOCK VIEW
CABINET REFILL REQUESTS VIEW
FIRST DOSE REQUESTS VIEW
CART FILL REQUEST VIEW
CAROUSEL QUEUE VIEW
RESTOCK CAROUSEL VIEW
20
2
3
4
5
Defines the high-level application flow for the Carousel Operations Application. This application handles carousel operations (picking and restocking), reporting, carousel configuration, and some administrative requirements.

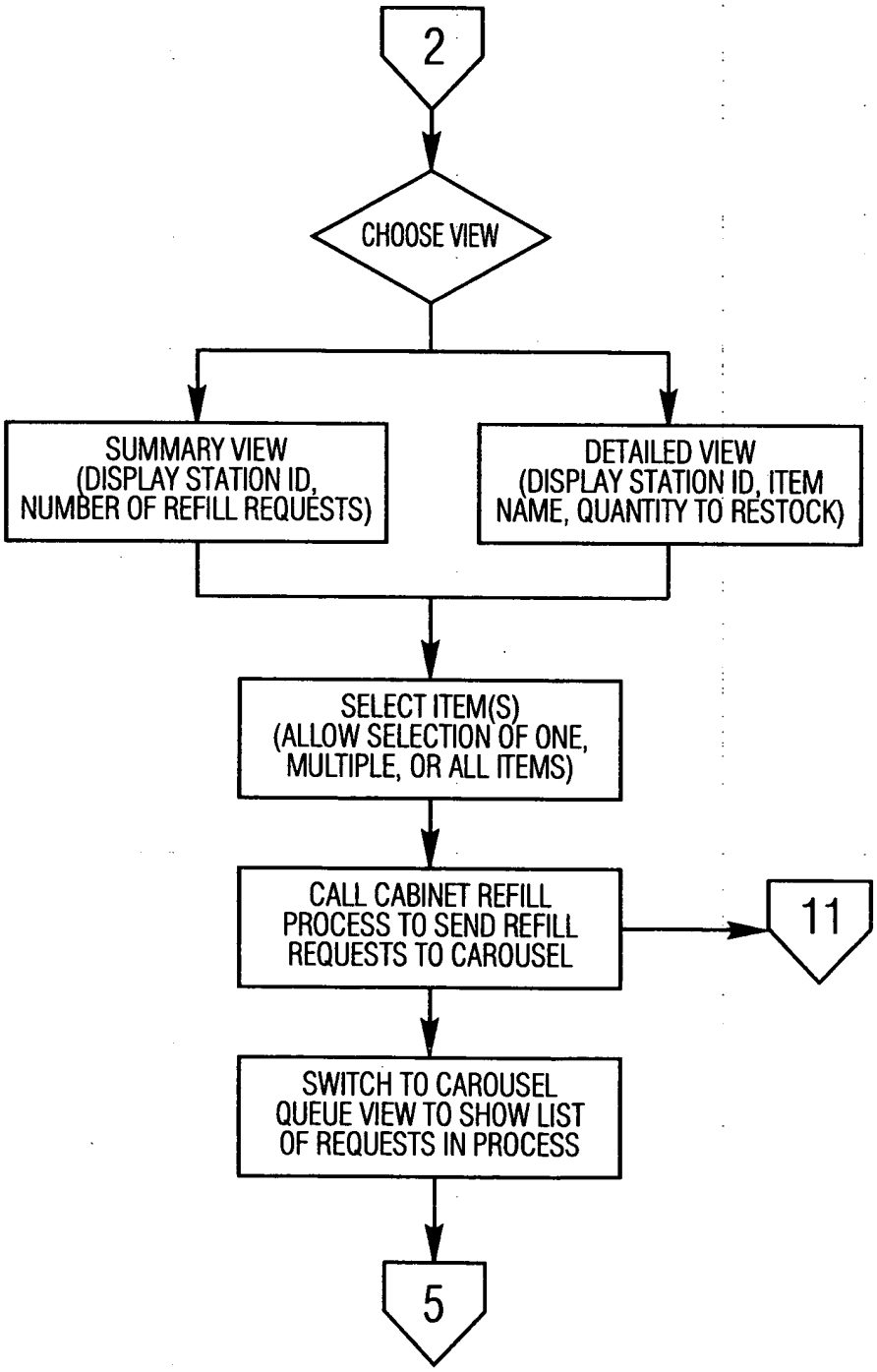
A1

Defines the demand pick and restock process flow. Demand picks are used to retrieve an item from the carousel when a patient order or cabinet refill request are not present. This could be used to fill a missing order, move inventory, or remove medications for packing operations.



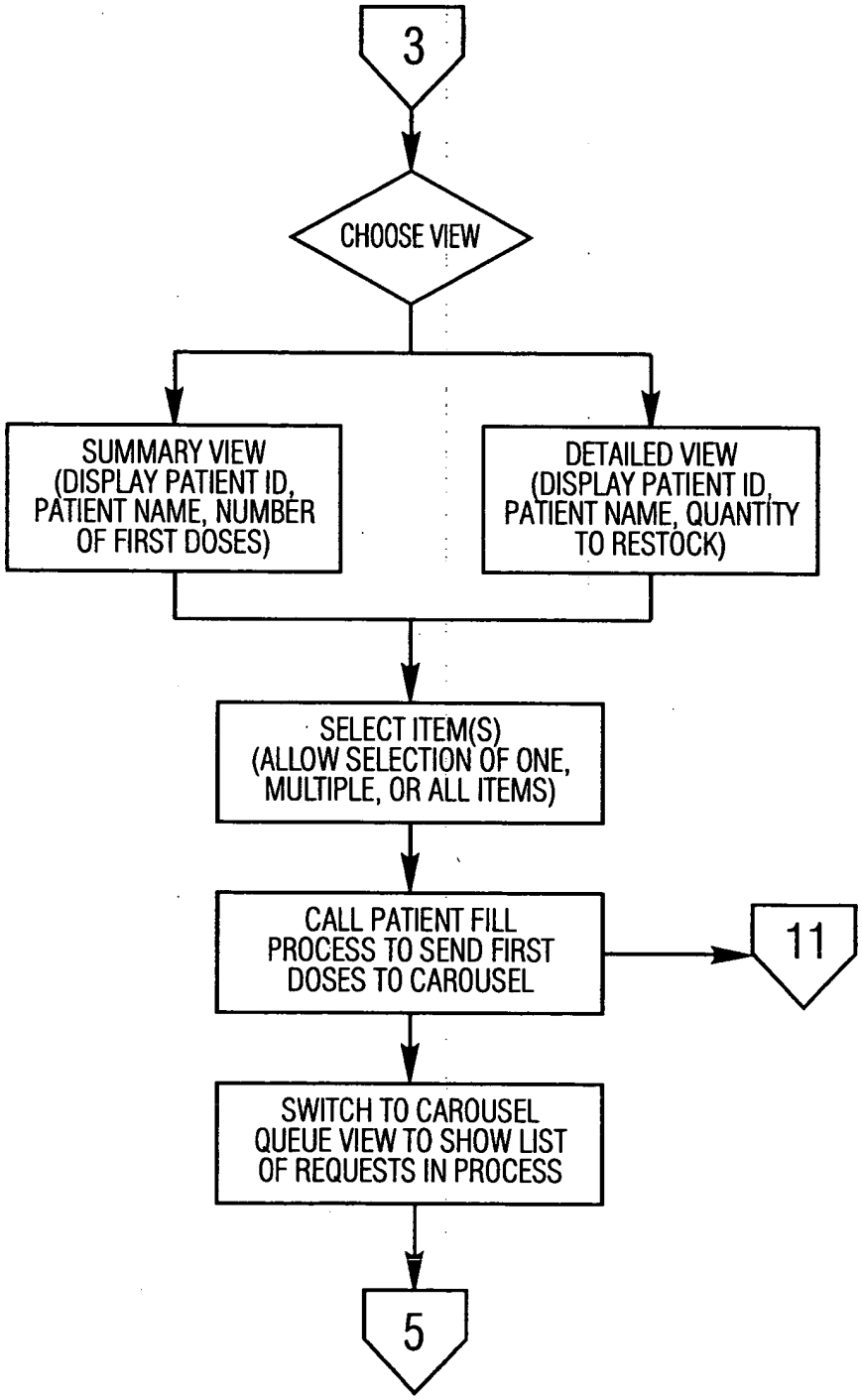
A2

Defines the cabinet refilling process. This allows the viewing of queued cabinet refill requests and the ability to selectively send these requests on a station or individual request level to the carousel.

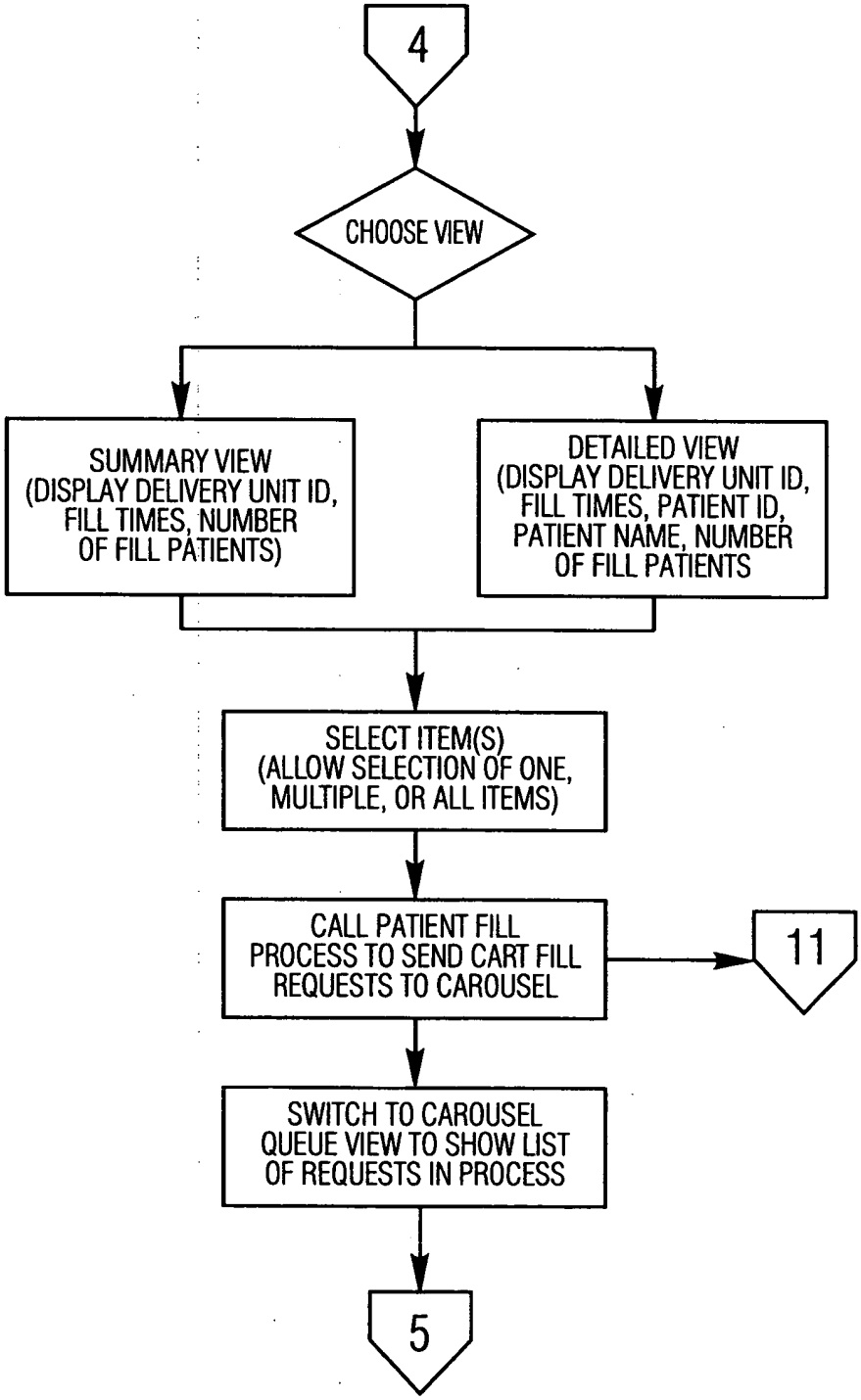


A3

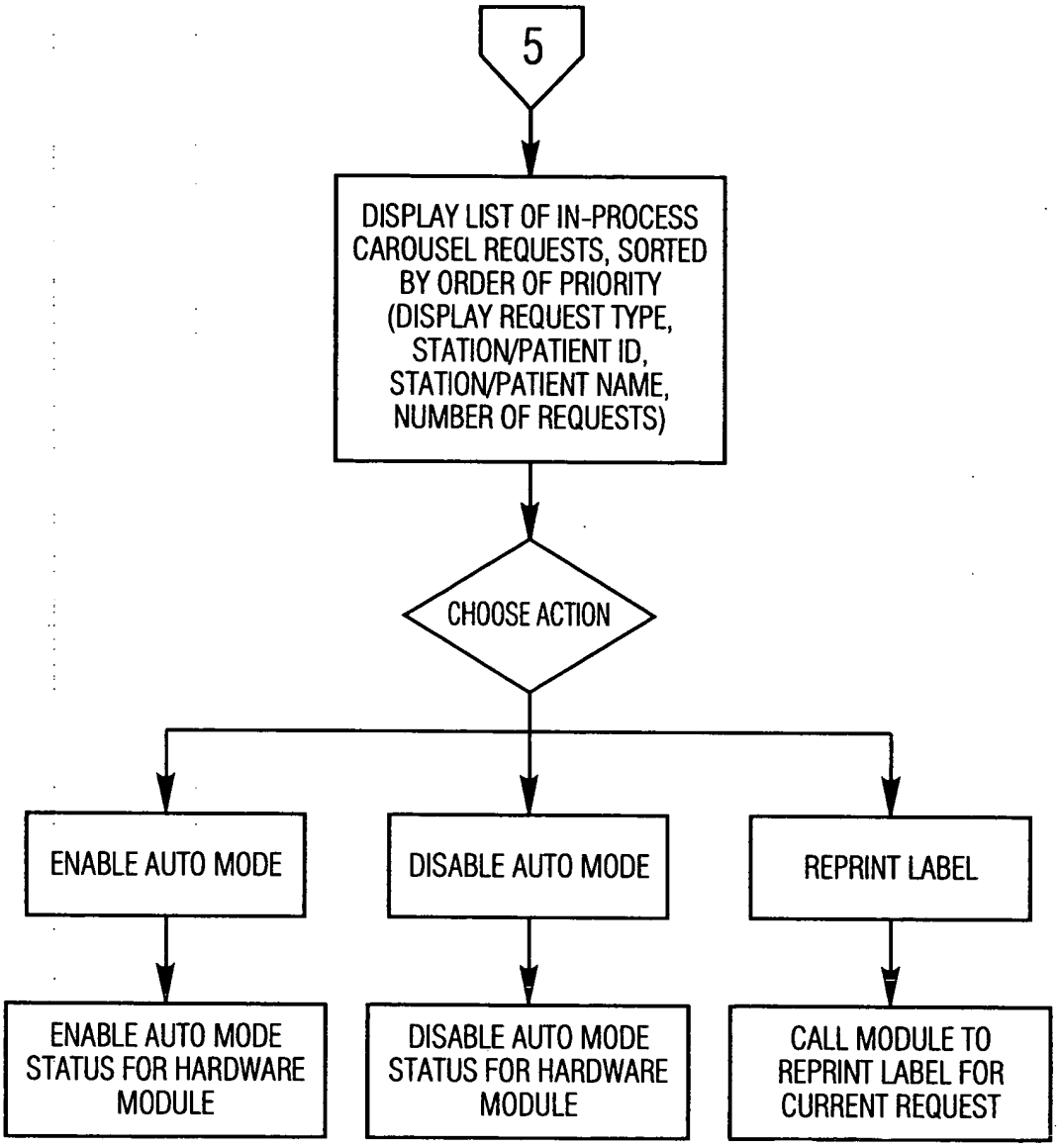
Defines the patient first dose filling process. This allows the viewing of queued first doses and the ability to selectively send these requests on a patient or individual request level to the carousel.

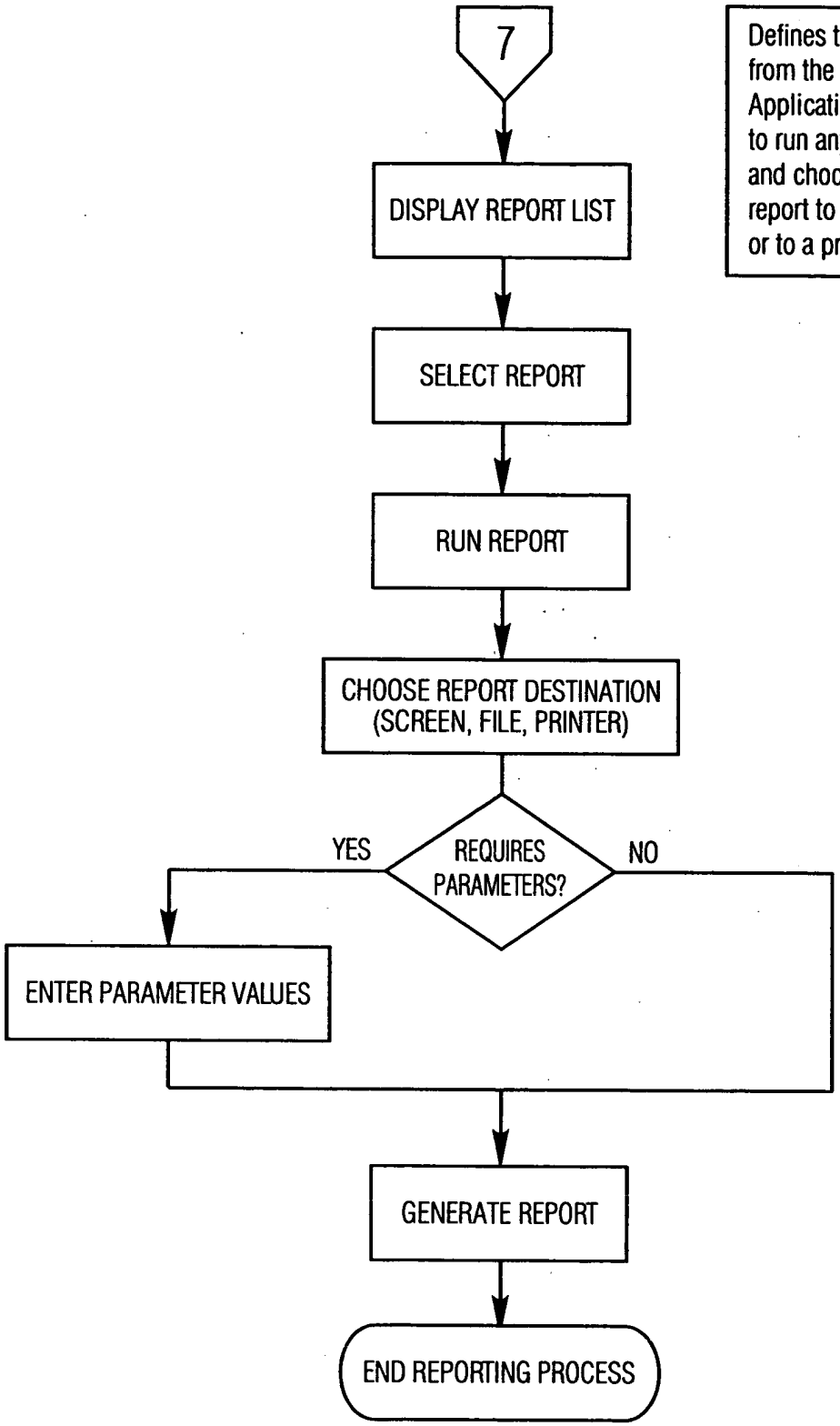


Defines the patient cart filling process. This allows the viewing of queued cart fill dispenses and the ability to selectively send these requests on a delivery unit or patient level to the carousel.

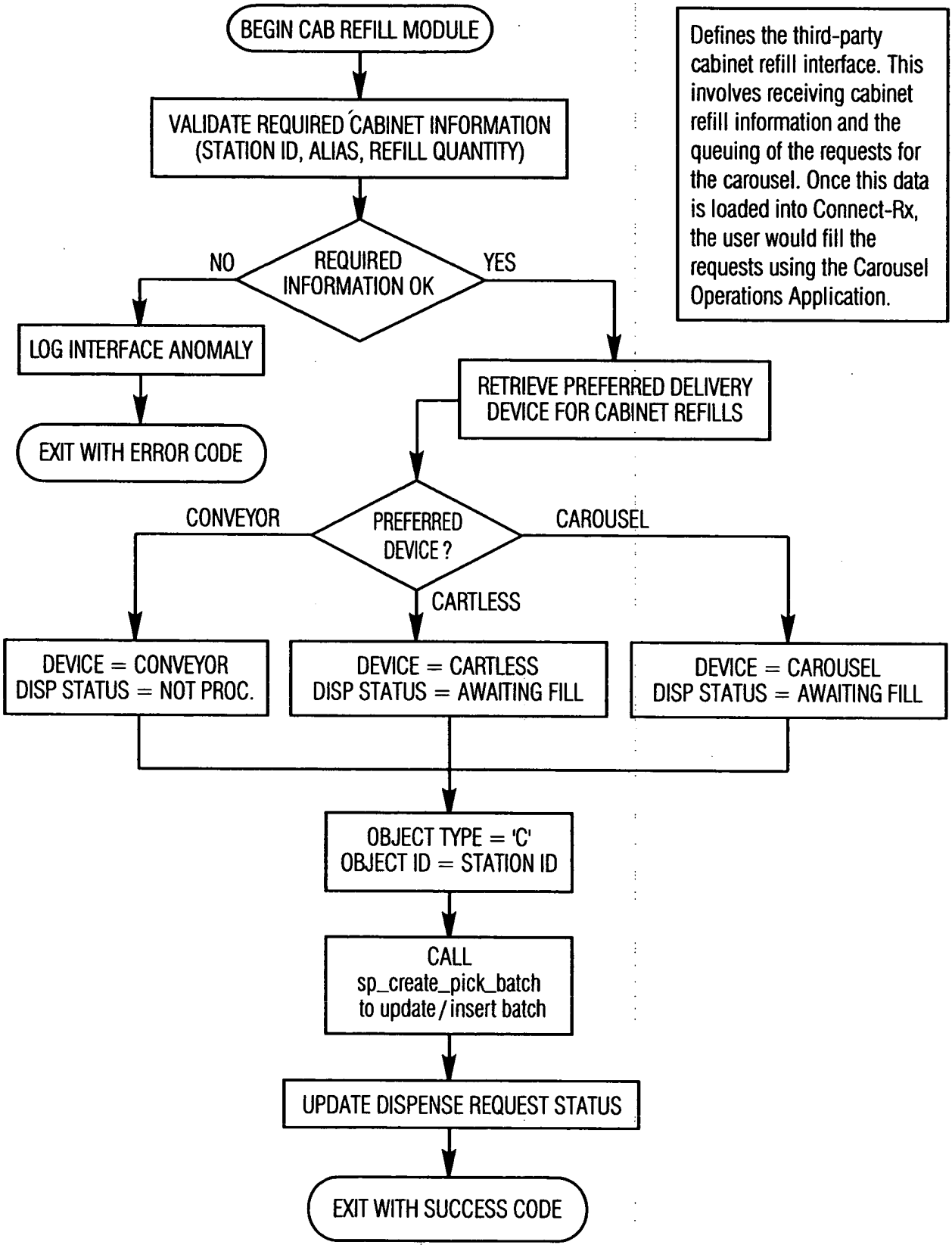


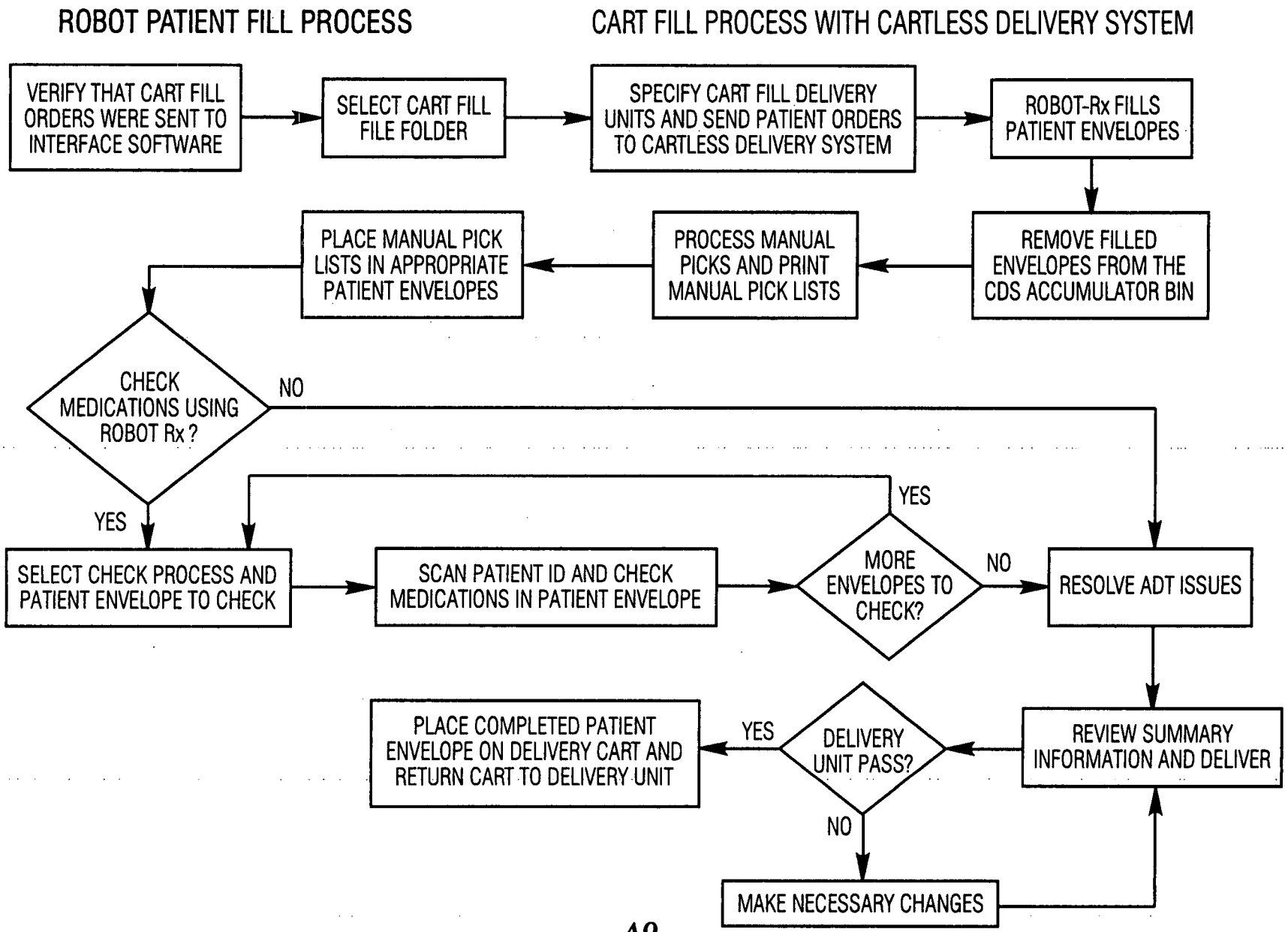
Defines the processing flow of the carousel queue screen. This screen displays the requests that have been sent to the carousel, including the request currently being processed and the requests that are waiting behind the current request. In auto-mode, the carousel will automatically move to the next request.





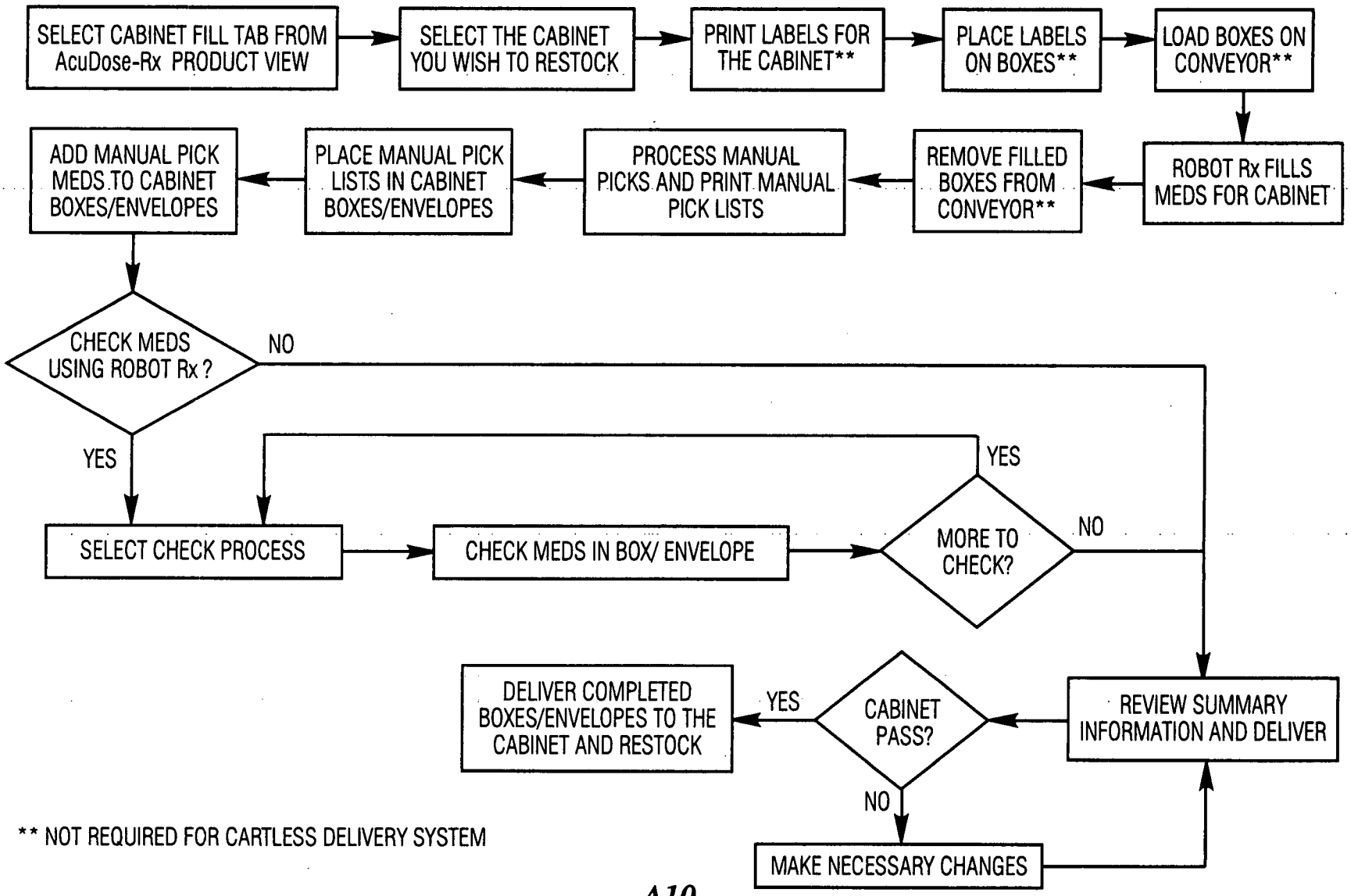
Defines the reporting process from the Carousel Operations Application. Users are allowed to run any configured report and choose to generate the report to the screen, to a file, or to a printer.


BEGIN CAB REFILL MODULE
VALIDATE REQUIRED CABINET INFORMATION (STATION ID, ALIAS, REFILL QUANTITY)
REQUIRED INFORMATION OK
NO
YES
LOG INTERFACE ANOMALY
EXIT WITH ERROR CODE
RETRIEVE PREFERRED DELIVERY DEVICE FOR CABINET REFILLS
PREFERRED DEVICE ?
CONVEYOR
CARTLESS
CAROUSEL
DEVICE = CONVEYOR
DISP STATUS = NOT PROC.
DEVICE = CARTLESS
DISP STATUS = AWAITING FILL
DEVICE = CAROUSEL
DISP STATUS = AWAITING FILL
OBJECT TYPE = 'C'
OBJECT ID = STATION ID
CALL sp_create_pick_batch to update / insert batch
UPDATE DISPENSE REQUEST STATUS
EXIT WITH SUCCESS CODE
Defines the third-party cabinet refill interface. This involves receiving cabinet refill information and the queuing of the requests for the carousel. Once this data is loaded into Connect-Rx, the user would fill the requests using the Carousel Operations Application.


ROBOT PATIENT FILL PROCESS
CART FILL PROCESS WITH CARTLESS DELIVERY SYSTEM
VERIFY THAT CART FILL ORDERS WERE SENT TO INTERFACE SOFTWARE
SELECT CART FILL FILE FOLDER
SPECIFY CART FILL DELIVERY UNITS AND SEND PATIENT ORDERS TO CARTLESS DELIVERY SYSTEM
ROBOT-Rx FILLS PATIENT ENVELOPES
REMOVE FILLED ENVELOPES FROM THE CDS ACCUMULATOR BIN
PROCESS MANUAL PICKS AND PRINT MANUAL PICK LISTS
PLACE MANUAL PICK LISTS IN APPROPRIATE PATIENT ENVELOPES
CHECK MEDICATIONS USING ROBOT Rx ?
NO
YES
SELECT CHECK PROCESS AND PATIENT ENVELOPE TO CHECK
SCAN PATIENT ID AND CHECK MEDICATIONS IN PATIENT ENVELOPE
MORE ENVELOPES TO CHECK?
YES
NO
RESOLVE ADT ISSUES
REVIEW SUMMARY INFORMATION AND DELIVER
DELIVERY UNIT PASS?
YES
NO
PLACE COMPLETED PATIENT ENVELOPE ON DELIVERY CART AND RETURN CART TO DELIVERY UNIT
MAKE NECESSARY CHANGES

ROBOT CABINET FILL PROCESS

CABINET RESTOCKING PROCESS



** NOT REQUIRED FOR CARTLESS DELIVERY SYSTEM